

PATENT (5181-67300/P4970)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applic	eation No.: 09/672,145	
Filed:	September 27, 2000	
Invente	or(s):	
Slau	ighter et al	
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Title:	REMOTE METHOD	
	INVOCATION WITH	
	SECURE MESSAGING IN	

A DISTRIBUTED

COMPUTING ENVIRONMENT

Examiner: Unknown Group/Art Unit: 2155 5181-67300 Atty. Dkt. No:

TO) PRCENED TO TOO TOO class mail in an envelope addressed to Commissioner for Patents, Washington, DC 20231, on the date indicated below. Robert C. Kowert Name of Registered Representative

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents Washington, D.C. 20231

Sir:			·
	Appli	icant req	uests consideration of the references listed on the attached Form PTO-
1449	and/or	the a	additional information identified below in paragraph 3. A copy of each
refere	nce liste	ed on the	Form PTO-1449 is enclosed.
1.		Informat	ion Disclosure Statement is submitted:
	a.	Ш	within 3 months of the filing date of a national application other than a continued prosecution application under § 1.53(d);
			within 3 months of the date of entry of the national stage as set forth in §
			1.491 in an International application; before the mailing date of a first Office Action on the merits; or before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114.
	b.		after the events of above paragraph 1a and prior to the mailing date of a final Office Action or Notice of Allowance, and thus: the certification of paragraph 2 below is provided, or a fee of \$180.00 is

enclosed.

	c	after the mailing date of a final Office Action or a Notice of Allowance and prior to payment of the issue fee, and thus: the certification of paragraph 2 below is provided and a fee of \$180.00 is enclosed.
2.	It is he	reby certified:
		that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Statement, or
		that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated in § 1.56 (c) more than three months prior to the filing of the Statement.
3.		Consideration of the following additional information (including any co-pending or abandoned U.S. applications, prior uses and/or sales, etc.) is requested:
4.	For eac	ch non-English language reference listed on the attached Form PTO-1449:
		reference is made to a foreign patent office search report (in the English).
		reference is made to an English language translation submitted herewise and/or reference is made to a foreign patent office search report (in the Englishmer 2100)
		reference is made to an English language translation of a foreign patent office search report submitted herewith, and/or
		reference is made to the concise explanation contained in the specification of the present application at page(s), and/or
		reference is made to the concise explanation set forth below:
5.		Applicant also offers the following comments for the Examiner's consideration:
6.		Also enclosed is a copy of a foreign search report citing these references.
7.		The listed documents were brought to the attention of the Applicant(s) after payment of the issue fee in the captioned case. The documents were cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. Applicant(s) request this Information Disclosure Statement and attached Form PTO-1449 be placed in the file of the captioned application.

8. Applicant(s) requests that the Information Disclosure Statement and attached Form PTO-1449 and references, which are being filed before the grant of the patent and pursuant to 37 C.F.R. § 1.97(i), be placed in the file of the captioned application.

If any required fees are missing, the Commissioner is authorized to charge said fees to Conley, Rose & Tayon, P.C. Deposit Account No. 50-1505/5181-67300.

Respectfully submitted,

Robert C. Kowert

Reg. No. 39,255

Attorney for Applicant(s)

CONLEY, ROSE & TAYON, P.C. P. O. Box 398 Austin, Texas 78767 (512) 476-1400

Date: Avg, 15, 2001

Form PTO-1449 (modified) List of Patents and Publications For Applicant's Information

Disclosure Statement (Use several sheets if necessary)

ATTY. DKT. NO. 5181-67300

APPLICANT: Slaughter et al.

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SERIAL NO. 09/672,145

GROUP: 2165

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OTHER ART (Including Author,	Title, Date, Pertinent Pages, Etc.)
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	OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)
	B1 "Java ™ Remote Method Invocation Specification," Sun Microsystems, Inc., <java.sun.com dk1.2beta1="" products="">, 1997.</java.sun.com>
	B2 Agha, et al., "Actorspaces: An Open Distributed Programming Paradigm," University of Illinois, Report No. UIUCDCS-R-92-1766, Open Systems Laboratory TR NO. 8, pp. 1-12, November 1992.
	B3 Ahmed, et al., "A Program Building Tool for Parallel Applications," Yale University, pp. 1-23, December 1, 1993.
	B4 Aldrich, et al., "Providing Easier Access to Remote Objects in Client-Server Systems," System Sciences, 1998, Proceedings of the 31 st Hawaii Internat'l. Conference, Jan. 6-9, 1998, pp. 366-375.
	B5 Aldrich, et al., "Providing Easier Access to Remote Objects in Distributed Systems," Calif. Institute of Technology, www.cs.Caltech.edu/%7Ejedi/paper.html, Nov. 21, 1997.
	B6 Anderson, et al., "Persistent Linda: Linda + Transaction + Query Processing," Proceedings of the 13 th Symposium on Fault Tolerant Systems, pp. 93-109, 1991.
	B7 "Transparent Network Computing," Locus Computing Corporation, January 5, 1995.
	B8 Alexander, et al., "Active Bridging," Proceedings of the ACM/SIGCOMM'97 Conference, Cannes, France, September, 1997.
	B9 Beech, et al., "Object Databases as Generalizations of Relational Databases," Computer Standards & Interfaces, Vol. 13, Nos. 1/3 pp. 221-230, Amsterdam, NL, January 1991.
-	B10 Bertino, et al., "Object-Oriented Database Management Systems: Concepts and issues,: Computer, Vol. 24, No. 4, pp. 33-47, Los Alamitos, CA, April 1991.
	B11 Betz, et al, "Interoperable Objects: Laying the Foundation for Distributed Object Computing," Dr. Dobb's Journal, Vol. 19, NO. 11, page 18(13), October 1994.
	B12 Bevan, et al., "An Efficient Reference Counting Solution To The Distributed Garbage Collection Problem," Parallel Computing, NL, Elsevier Science Publishers, Amsterdam, Vol. 9, No. 2, pages 179-192, January 1989.
	B13 Birrell, et al., "Distributed Garbage Collection for Network Objects," Digital Systems Research Center, NO. 116, pages 1-18, December 15, 1993.
	B14 Birrell, et al., "Grapevine: An Exercise in Distributed Computing," Communications fo the ACM, Vol. 25, No. 4, pp. 260-274, April 1982.
	B15 Birrell, et al., "Network Objects," DEC SRC Research Report 115, February 28, 1995.
	B16 Birrell, et al., "Implementing Remote Procedure Calls," ACM Transactions on Computer Systems, Vol. 2, No. 1, pp. 39-59, February 1994.
	B17 Birrell, et al., "Network Objects," Operating Systems Review, 27(5), pp. 217-230, December 1993.
	B18 Cannon, et al., "Adding Fault-Tolerant Transaction Processing to LINDA," Software-Practice and Experience, Vol. 24(5), pp. 449-466, May 1994.
	B19 Cardelli, "Obliq, A Lightweight Language For Network Objects," Digital SRC, pp. 1-37, November 5, 1993.
	B20 Carriero, et al., "Distributed Data Structures in Linda," Principles of Programming Language, pp. 1-16, 1986.
	Dro-

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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw through citation if not in conformance and not considered. Include copy of this form with next communication to the patent owner.

Form PTO-1449 (modified) List of Patents and Publications

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Disclosure Statement
(Use several sheets if necessary)

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ATTY. DKT. NO. 5181-67300

APPLICANT: Slaughter et al.

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SERIAL NO. 09/672_145

GROUP: 21**5**5

AUG 1 7 2001

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.) Carriero, et al., "Distributed Data Structures in Linda," Yale Research Report YALEU/DCS/RR-438 November 1985.

	November 1965.
	Chung, et al., "A Tiny' Pascal Compiler: Part 1: The P-Code Interpreter," BYTE Publications, Inc., September 1978.

- B23 Chung, et al., "A Tiny' Pascal Compiler: Part 2: The P-Compiler," BYTE Publications, Inc., October 1978.
- Dave, et al., "Proxies, Application Interface, And Distributed Systems," Proceedings International Workshop On Object Orientation In Operating Systems, pages 212-220, September 24, 1992.
- B25 Deux, et al., "The O2 System," Communications Of The Association For Computing Machinery, Col. 34, No. 10, pages 34-48, October 1, 1991.
- B26 Dijkstra, "Self-stabilizing Systems in Spite of Distributed Control," Communications of the ACM, Vol 17, No. 11, pp. 643-644, November 1974.
- B27 Dolev, et al., "On the Minimal Synchronism Needed for Distributed Consensus," Journal of the ACM, Vol. 34, NO. 1, pp. 77-97, January 1987.
- B28 Dollimore, et al., "The design of a System for Distributing Shared Objects," The Computer Journal, No. 6, Cambridge, GB, December 1991.
- B29 Dourish, "A Divergence-Based Model of Synchrony and Distribution in Collaborative Systems," Xerox Technical Report EPC-1194-102, pp. 1-10, 1994.
 B30 Drexier, et al., "Incentive Engineering for Computational Resource Management," The Ecology of
- Computation, Elsevier Science Publishers B.V., pp. 231-266, 1988.
- B31 Gelernter, et al., "Parallel Programming in Linda," Yale University, pp. 1-21, January 1995.
- B32 Droms, "RFC 1541 Dynamic Host Configuration Protocol," http://www.cis.ohio-state.edu.htbin/rfc/rfc1541.html, pages 1-33, October 1993.
- B33 Emms, "A Definition Of AN Access Control Systems Language," Computer Standards And Interfaces, Vol. 6, No. 4, pp. 443-454, January 1, 1997.

 B34 Fleisch et al. "High Performance Distributed Objects Using Distributed Shared Memory & Remote Method
- B34 Fleisch, et al., "High Performance Distributed Objects Using Distributed Shared Memory & Remote Method Invocation," System Sciences, 1998, Proceedings of the 31st Hawaii Internat¹. Conference, Jan. 6-9, 1998, pp. 574-578.
- B35 Gelernter, "Generative Communication in Linda," ACM Transactions on Programming Languages and Systems, Vol. 7, No. 1, pp. 80-112, January 1985.
- B36 Gottlob, et al., "Extending Object-Oriented Systems with Roles," ACM Transactions On Information Systems, Vol. 14, NO. 3, pp. 268-296, July 1996.

 B37 Gray, et al. "Leases: An Efficient Fault-Tolerant Mechanism for Distributed File Cache Consistency," ACM,
- pp. 202-210, 1989.

 B38 Guth "JavaOne: Sun to Expand Java Distributed Computing Effor " http://www.sunworld.com/swol-02-
 - Guth, "JavaOne: Sun to Expand Java Distriubted Computing Effor," http://www.sunworld.com/swol-02-1998/swol-02-sunspots.html, XP-002109935, p.1, February 20, 1998.
- B39 Guyennet, et al., "A New Consistency Protocol Implemented in the Calif System," IEEE, 1094-7256/97, pp. 82-87, 1997.

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EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line throughout in conformance and not considered. Include copy of this form with next communication to the patent owner.

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List of Patents and Publications
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ATTY. DKT. NO. 5181-67300

APPLICANT: Slaughter et al.

FILING DATE: September 27, 2000

SERIAL NO. 0

GROUP: 21/55

AUG 1 7 2001

 (Osc several sheets in necessary) Tibir of DATE. September 27, 2000
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)
B40 Guyennet, et al., "Distributed Shared Memory Layer for Cooperative Work Applications," IEEE, 0742-1303/97, pp. 72-78, 1997.
B41 Hamilton, et al., "Subcontract: A Flexible Base for Distributed Programming," Proceedings of 14 th Symposium of Operating System Principles, December 1993.
B42 Hamilton, "Java and the Shift to Net-Centric Computing," Computer, pp. 31-39, August 1996.
B43 Harris, et al., "Proposal for a General Java Proxy Class for Distributed Systems and Other Uses," Netscape Communications Corp., June 25, 1997.
B44 Hartman, et al., "Liquid Software: A New Paradigm For Networked Systems," Technical Report 96-11, Dept. of Comp. Sci., Univ. of Arizona, June 1996.
B45 Howard, et al., "Scale and Performance in a Distributed File System," ACM Transactions on Computer Systems, Vol. 6, No. 1, pp. 51-81, February 1988.
B46 Pier, "A Retrospective on the Dorando, A High-Performance Personal Computer," Xerox Corporation, August 1983.
B47 Pinakis, "Using Linda as the Basis of an Operating System Microkernel," University of Western Australia, Dept. of Computer Science, pp. 1-165, August 1993.
B48 Riggs, et al., "Picking State in the Java ™ System," USENIX, Association Conference on Object-Oriented Technologies and Systems, CP-002112719, pp. 241-250, June 17-21, 1996.
 B49 Rosenberry, et al., "Understanding DCE," Chapters 1-3, 6, 1992.
B50 Sharrott, et al., "ObjectMap: Integrated High Performance Resources into a Distributed Object-oriented Environment," ICODP, 1995.
B51 - Stevenson, "Token-Based Consistency of Replicated Servers," IEEE, CH2686-4/89/0000/0179, pp. 179-183, 1989.
B52 Thompson, "Regular Expression Search Algorithm," Communications of the ACM, Vol. II, No. 6, p. 149 et seq., June 1968.
B53 Venners, "Jini Technology, Out of the Box," JAVAWORLD, 'Online!, pp. 1-4, December 1998.
B54 Waldo, et al., "Events in An RPC Based Distributed System," Proceedings Of The 1995 USENIX Technical Conference, Proceedings USENIX Winter 1995 Technical Conference, New Orleans, LA, USA, 16-20, pages 131-142, January 1995.
B55 Wilson, et al., "Design of the Opportunistic Garbage Collector," Proceedings of the Object Oriented Programming Systems Languages And Applications Conference, New Orleans, Vol. 24, No. 10, October 1989.
B56 Wollrath, et al., "A Distributed Object Model for the Jaca ™ System," USENIX Association, Conference on Object-Oriented Technologies and Systems, June 17-21, 1996.
B57 Wu, "A Type System For An Object-Oriented Database Systems," Proceedings of the International Computer Software and Applications Conference (COMPSAC), Tokyo, Japan, pp. 333-338, Sept. 11-13, 1991.
B58 Yemini, et al., "Towards Programmable Networks," IFIP/IEEE International Workshop on Distributed Systems: Operations and Management, L'Aquila, Italy, October 1996.
B59 Yin, et al., "Using Leases to Support Server Driven Consistency in Large-Scale Systems," Computer Services Department, University of Texas at Austin, p. 285-294, May 26-28, 1998.

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SERIAL NO. 09/

GROUP: 21

 OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)
Yin, et al., "Volume Leases for Consistency in Large-Scale Systems," IEEE Transactions on Knowledge & Data Engineering, Vol. 11, No. 4, pp. 563-576, July/August 1999. B61. Mitchell, et al., "An Overview of the Spring System," February 1994. B62. Mitchell, et al., "Mesa Language Manual," Xerox Corporation, Palo Alto Research Center, 1976. B63. McDaniel, "An Analysis of a Mesa Instruction Set," Xerox Corporation, May 1982.
 B61. Mitchell, et al., "An Overview of the Spring System," February 1994.
B62 Mitchell, et al., "Mesa Language Manual," Xerox Corporation, Palo Alto Research Center, 1975.
B63 McDaniel, "An Analysis of a Mesa Instruction Set," Xerox Corporation, May 1982.
McGrath, "Discovery and its Discontents: Discovery Protocols for Ubiquitous Computing," Presented & Center for Excellence in Space Data and Information Science, NASA Goddard Space Flight Center, April 5, 2000.
B65 Mummert, et al., "Long Term Distributed File Reference Tracing: Implementation and Experience," Carnegie Mellon University School of Computer Science, pp. 1-28, November 1994.
B66 Orfali, et al., "The Essential Distributed Objects Survival Guide," Chapter 11: Corba Commercial ORBs, pages 203-215, John Wiley & Sons, Inc., 1996.
B67 Ousterhout, et al., "The Sprite Network Operating System," Computer, IEEE, pp. 23-36, February 1988.
B68 Pier, "A Retrospective on the Dorando, A High-Performance Personal Computer," IEEE Conference Proceedings, The 10 th Annual International Symposium on Computer Architecture," 1993.
B69 Hunt, "IDF: A Graphical Data Flow Programming Language for Image Processing and Computer Vision," Proceedings of the International Conference on Systems, Man, and Cybernetics, pp. 351-360, Los Angeles, Nov. 4-7, 1990.
B70 IBM TM Technical Disclosure Bulletin, "Object Location Algorithm," Vol. 36, No. 09B, pp. 257-258, September 1993.
B71 IBM, "Chapter 6 - Distributed SOM (DSOM)," SOMobjects Developer Toolkit Users Guide, Version 2.1, pages 6-1-6-90, October 1994.
B72 Anonymous, "Change-Notification Service for Shared Filed," IBM Technical Disclosure Bulletin, Vol. 36, No. 8, pages 77-82, XP002109435 New York, US, November 1973.
B73 IBM TM Technical Disclosure Bulletin, "Retrieval of Qualified Variables Using Extendible Hashing," Vol. 36, No. 12, pp. 301-303, December 1993.
B74 Anonymous, "Resource Preemption for Priority Scheduling," IBM TECHNICAL DISCLOSURE BULLETIN, Vol. 16, No. 6, page 1931, XP002109435 New York, US, November 1973.
B75 IBM TM Technical Disclosure Bulletin, "Local Network Monitoring to Populate Access Agent Directory," Vol. 36, No. 09A, pp. 403*405, September 1993.
B76 MUX-Elektronik, Java 1.1 Interactive Course, www.lls.se/~mux/javaic.html, 1995.
B77 Jones, et al., "Garbage Collection: Algorithms for Automatic Dynamic Memory Management," pages 165-175, John Wiley & Sons, 1996.
B78 Kambhatla, et al., "Recovery with Limited Replay: Fault-Tolerant Processes in Linda," Oregon Graduate Institute, Technical Report CSIE 90-019, pp. 1-16, September 1990.
B79 Kay, et al., "An Overview of the Raleigh Object-Oriented Database System," ICL Technical Journal, Vol. 7, No. 4, pp. 780-798, Oxford, GB, November 1991.

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Form PTO-1449 (modified) ATTY. DKT. NO. 5181-67300 SERIAL NO. 09/672,145 List of Patents and Publications APPLICANT: Slaughter et al. GROUP: 23 For Applicant's Information Disclosure Statement (Use several sheets if necessary) FILING DATE: September 27, 2000 OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.) Kougiouris, et al., "Support for Space Efficient Object Invocation in Spring," September 1994. **B80 B81** Krasner, "The Smalltalk-80 Virtual Machine," BYTE Publications, Inc., pp. 300-320, August 1991. B82 1 Lamport, et al., "The Byzantine Generals Problem," ACM Transactions on Programming Languages and Systems, Vol. 4, No. 3, pp. 382-401, July 1982. LINDA Database Search, pp. 1-68, July 20, 1995. **B83** Liskov, et al., "Distributed Object Management in Thor," International Workshop on Distributed Object B84 Management, 1992. B85 Gosling, et al., "The Java ™ Language Specification," Addison-Wesley, 1996.

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